Supporting the Implementation of Joint Capability Areas (JCAs) with A Prototype Strategic Analysis Capability

March 7, 2006

What are Joint Capability Areas?

- JCAs are individual elements of a standard structure for describing joint capabilities
- The "beginnings of a common language to discuss and describe capabilities across many related Department activities and processes.[1]"
  - The JCAs will evolve over time
- JCAs describe missions and functional activities performed by the Joint Force
  - The JCAs are overlapping, and represent the Combatant Commands' view of the Department's capabilities
- JCAs are divided into 21 "Tier 1" JCAs and 210 "Tier 2" JCAs[2]
  - Tier 2 JCAs may map to multiple Tier 1 JCAs
  - 2-40 Tier 2's per Tier 1

[1] Secretary of Defense memorandum, 6 May 2005, Subject: Operational Availability (OA)-05/Joint Capability Areas

[2] As of 24 Aug 2005 FO/GO/SES Resolution Conference

Strategic Analysis Project

- PFED started a project in Summer 2004 to assess what kinds of strategic information would be relevant and useful if added to FYDP data—coincided with growing interest in the Joint Capability Areas (JCAs)

- In March 2005, proposed an "experiment" to test mapping OSD PEs to the 21 JCAs
  - Mr. Krieg supported the concept and recommended a collaborative development effort with the Joint Staff and Services
  - Mr. Berkson was briefed on the effort and also supports the concept

- From the SecDef's memo, dated May 6, 2005…

  "OSD (PA&E) shall apply the capabilities lexicon to the program and budget databases as appropriate prior to the FY 08-18 POM cycle."

Outline of The Strategic Analysis Project

- Develop a prototype strategic analysis capability that will—
  - Address the SECDEF tasking
  - Think “beyond the JCAs” -- have the flexibility to display the Department’s program in different ways, in addition to the JCAs
  - Enable PA&E to improve the programmatic information available for senior decisionmakers
- Proceed with an entrepreneurial approach-- run a small, agile project that—
  - Leverages other efforts
  - Is integrated with other data improvement efforts
  - Can develop a product quickly enough to support the QDR, if desired
- Increase the usability of the database that supports the creation of the Future Years Defense Program (FYDP) report (and other analytical needs) for the initial effort

Benefits of the Strategic Analysis Project

- Does things that we can't do now
  - Will provide a high level view of the Department, in a common, "capabilities-based" language
  - Adds agility and growth potential to the database
  - Over time, will provide a more detailed picture of trends and change

- This type of analysis provides "approximate" information
  - This information doesn't provide the "answer," but it helps senior leaders frame trade space discussions
  - Resolution limited by:
    - The structure of the conceptual model and the structure/ inconsistency of PEs
    - Multiple applications for each program
    - Aggregation of support functions obscures full costing

What We Have Done So Far

- ✓ Developed a method to assign JCA attributes to Program Elements (PEs)
  - Concurrence from Services, SOCOM, and Joint Staff
- ✓ Limited the structure to Tier 1 JCAs
  - Appropriate for strategic-level considerations
- ✓ Applied to “Forces” PEs only (roughly 50% of TOA)
  - Infrastructure codes are sufficient to describe the other 50%
- ✓ Allowed each “Forces” PE to have up to 5 families of JCA attributes
  - JCAs overlap and resources are counted multiple times
- ✓ Created a living data construct
  - Will require an attribute owner to manage the construct as JCAs and PEs change over time

With This JCA Application, You Can…

- Identify the portfolio of PEs that contribute to each JCA, and the resources required to field that portfolio
- Identify PEs that contribute to multiple JCAs
- Consider the impact of changes to a program across multiple JCAs
- Tee up program and resource trades within and across JCAs
- Change JCA definitions and assignments over time

But you can not…

- Use it to account for or report DoD's budget/program
  - Only applied to 50 % of TOA, and counts portions of TOA multiple times
- Assess the sufficiency of DoD's capabilities in any area
  - Requires operational modeling to determine "how much is enough?"

What We're Ready To Do

- OSD will be able to do rudimentary analysis against the FY 2007-2011 FYDP as a baseline by May 2006
- Components will be able to use JCAs to *characterize* their FY 2008-2013 FYDP/BES submissions
- OSD will be able to use JCAs in support of analysis during the FY 2008-2013 Program and Budget Review

Process and Rules for Mapping JCAs to Program Elements

Applying the JCAs to Programming Data

- The JCAs pose some analytical problems—
  - They are highly overlapped (e.g. Battlespace Awareness contributes to Air Operations, Land Operations, and many other areas)
  - Many DoD capabilities can contribute to multiple JCAs (e.g. Attack Submarines can be used for Land Operations, Maritime/Littoral Operations, and Battlespace Awareness)
  - They address “forces” capabilities fairly well, but lump most “infrastructure” functions (roughly half the TOA) into two JCAs (Force Generation and Force Management)
- The JCAs describe capabilities--
  - Mapping PEs to JCAs requires judgments as to “how PEs will be used” by the Joint Force- this can change as concepts, doctrine and threats evolve
  - Unavoidable subjective component to the JCA mapping
- The Program Elements also have some issues—
  - Widely varying scope and content
  - Limited descriptive information

Preliminary "Forces" Categories and Values

Role
Operational Force-wide support
Air operations
Defense Support of Civil Authorities
Homeland defense
Land operations
Maritime/littoral operations
Shaping
Space operations
Special Operations and Irregular Operations
Stability operations
Global deterrence
Other

Primary Operating Environment
Multiple Environments
Air
Air (Sea based)
Land
Sea
Space

Function
Access & access denial operations
Battlespace awareness
Civil affairs
Command and control
Force/effects application
- Lethal
- Non-lethal

Force generation
Force management
Information operations
Interagency/IGO/NGO coordination
Logistics – Deployment/distribution
Logistics – Force health protection
Logistics – Mgmt/information fusion
Logistics – Multinational
Logistics – Operational Engineering
Logistics – Sustainment
Logistics- Theater Logistics
Net-Centric Operations
Public affairs
Protection
Force Resource Adjustment
Other

Effects Target
Multiple Effects Targets
U.S./Coalition military forces and capabilities
Adversary military forces and capabilities
Non-military adversaries/capabilities
Emerging threats and technologies
WMD and WMD capabilities
General populations
Other

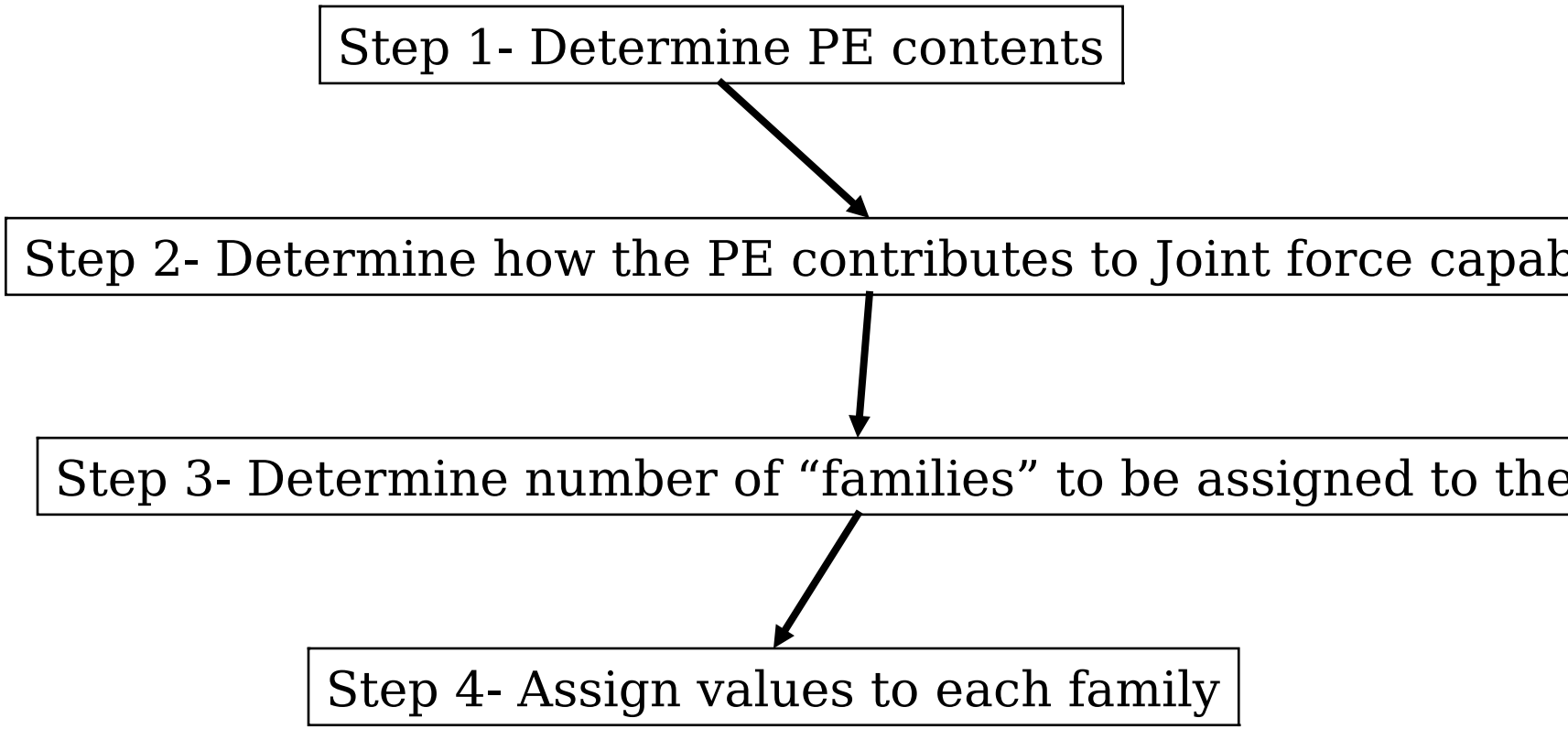
Effects Environment
Multiple Environments
Air
Cyberspace
Land
Sea
Space

Capability Date
Current
Future

Each Program Element can have five sets of roles, functions, effects targets/environments, and effectiveness values

- Joint Capability Area

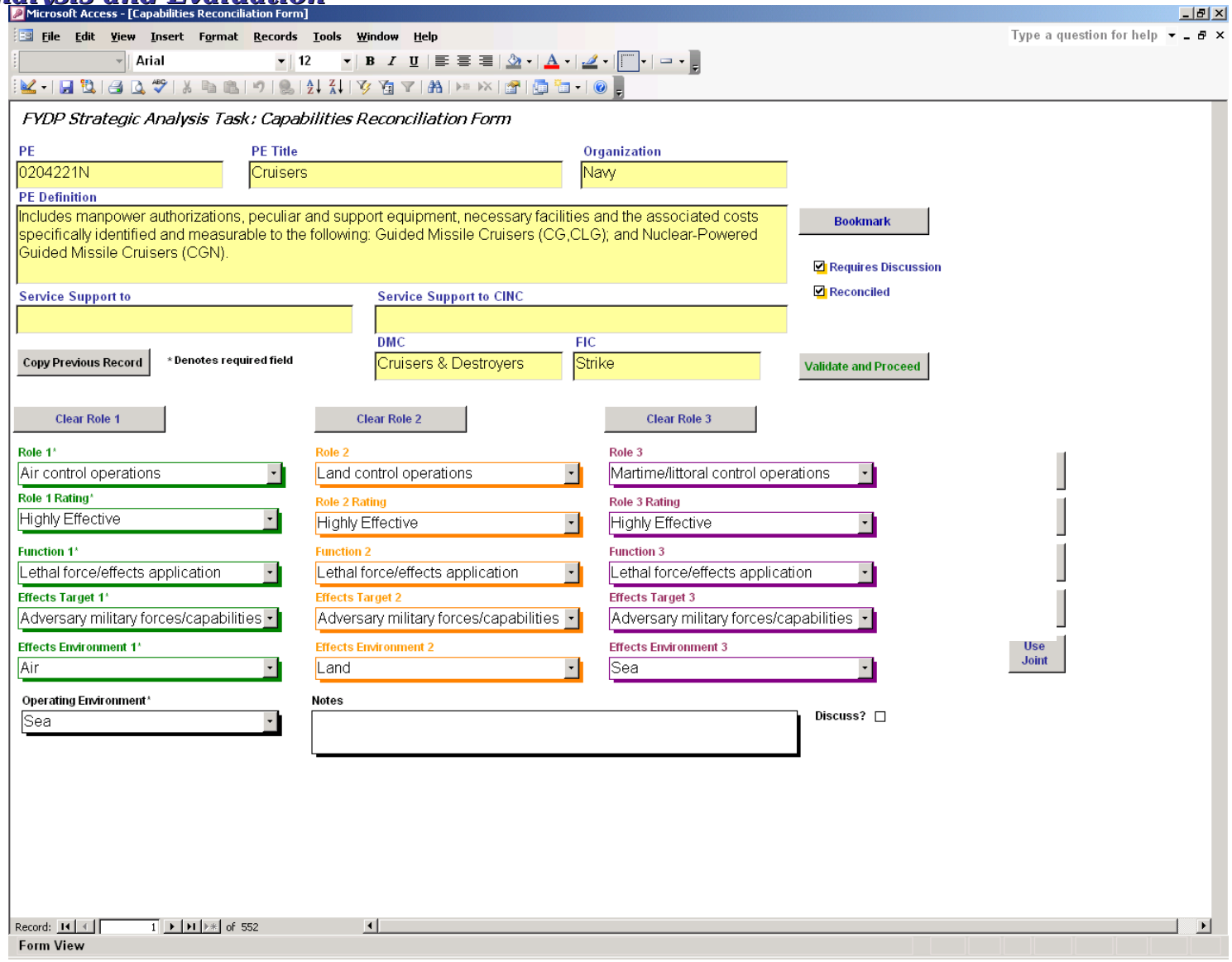
General Process for Applying the JCAs to Programming Data


Step 1- Determine PE contents
Step 2- Determine how the PE contributes to Joint force capab
Step 3- Determine number of “families” to be assigned to the
Step 4- Assign values to each family

General Process for Applying the JCAs to Programming Data

#	Process Step	Method for Prototype	Objective Method
1	Determine PE contents	Use existing PE description, other data elements and subject matter expertise	Improve descriptions of PE content
2	Determine how the PE contributes to Joint force capabilities	Subjective, based on joint concepts, doctrine and actual use	Have proponents answer a series of questions about the PE
3	Determine number of “families” to be assigned to the PE	Subjective, based on general guidelines and proponent judgment	Subjective, based on detailed guidelines and judgment by a neutral oversight entity
4	Assign values to each family	Business rules used to augment Tier definitions and provide consistency across PEs	Automatic, based on response to questions in Step 2

Data Entry Screen



Example- Program Element with a Single Set of Values

Program Element- North Atlantic Defense System

Category	Value
Role	Homeland Defense
Function	Battlespace Awareness
Effects Target	Military Adversaries
Effects Environment	Air
Operating Environment	Land
Initial Operational Capability Date	Current

Example- Program Element with Multiple Sets of Values- Different Roles and Functions

Program Element- Amphibious Assault Ships

Category	Value Set 1	Value Set 2	Value Set 3	Value Set 4
Role	Land Operations	Maritime/Littoral Operations	Global Deterrence	Stability Operations
Function	Lethal Force/ Effects Application	Access & Access Denial	Lethal Force/ Effects Application	Lethal Force/ Effects Application
Effects Target	Military Adversaries	Military Adversaries	Military Adversaries	Non-Military Adversaries
Effects Environment	Land	Land	Land	Land
Operating Environment	Sea			
Initial Operational Capability Date	Current			

These are the same across all Value Sets

Example- Program Element with Multiple Sets of Values- Different Effects Target

Program Element- JSTARS

Category	Value Set 1	Value Set 2	Value Set 3
Role	Air Operations	Land Operations	Land Operations
Function	Battlespace Awareness	Battlespace Awareness	Battlespace Awareness
Effects Target	Military Adversaries	Military Adversaries	US/Coalition forces and capabilities
Effects Environment	Air	Land	Land
Operating Environment	Air		
Initial Operational Capability Date	Current		

Shows the "Blue Force Tracking" capability

Primary Uses of JCAs

- The use of JCAs is in its infancy– will expand with time and experience
- Some current uses—
  - An organizing framework for the Functional Capability Board "portfolios"
  - A way to view the allocation of resources
  - A structure for analyses
    - This may eventually lead to an assessment of "how much capability is needed and how much we have now" in a given JCA